

THE
HIDDEN
CHANGE

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FOREWORD

I deem it a great privilege to be asked to write an introductory note on the important monograph on Adolescence contributed by Prof. Nawal Kishore. With all humility and with a deep sense of gratitude, I venture to share some of my thoughts while paying my warmest regards to Prof. Nawal Kishore, an eminent teacher, excellent clinician, esteemed doyen of our profession and an exceptional person.

Adolescence is a period of transition between childhood and adulthood in which the body develops in size, strength and reproductive capability. The mind becomes competent of more abstract thinking, future orientation and ethical conviction. The health of adolescents, aged 10 through 19 years, is dependent on the family members and conditions, school, community, place of recreation, work, worship and the mass media. While adolescents mature by doing things themselves, they need material and moral support, they need adult models of healthy behavior, they need services sensitive to their needs and they need opportunities to learn, work, play and contribute to their societies.

The adolescents constitute about one fifth of the total population of India. The health of this important segment of population has been neglected until recently. There has been a growing recognition, in recent years, about the importance of adolescent reproductive health by WHO/UNFPA/ UNICEF in 1989, WHO in 1990 and by India's Population Policy document 2000. Most of the health concerns of adolescents are essentially behavioral and social in origin. It is imperative to understand their awareness and sexual behaviour as there is not much information available on these

PREFACE

issues related to adolescents. Their special requirements comprise information, counselling, population education, available and accessible contraceptive services and provision of food supplement and nutritional services especially in rural India.

There is dearth of monographs on adolescent health and problems with particular reference to Asian countries. An Indian reference book on adolescence was long overdue. This important publication is timely and meets the needs of adolescents while helping them to know about themselves and guiding them to grow up wisely. The scientific content of the book is of a high calibre as the learned author has taken meticulous care in providing outstanding information. The choice of subjects is very appropriate and the book contains topics of current interest. The chapters are comprehensive, informative and up to date. The volume is superbly crafted to prove user friendly. Prof. Nawal Kishore deserves our great appreciation for his dedicated efforts and wisdom in bringing out this brilliant publication. It is hoped that the book will be of immense help to the adolescents, students, teachers as well as policy makers.

New Delhi

Prof. S. N. Mukherjee
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The sudden occurrence of the first menstruation called Catamania is an important landmark in the life of a girl. This pushes her into a state of surprise and shock. Medically this is the first step from puberty towards adolescence. The child is usually aged between 12-14 years and studying in standard 6-8.

A number of questions invade her thoughtful mind, like why and how this has happened. It is going to affect her daily life including her school going. She usually rushes to her mother for information on these, but is usually not satisfied with the information given to her. The confusion gets further compounded with the inception of secondary sex characters and associated anatomical, physiological and psychological changes. A sense of maturity incepts and starts growing, leading to a Pandora of equally important questions like growth, health, education and finally the profession and career to be chosen. She is in a fix and does not know where and from whom she can get answers for her questions to her satisfaction.

Since, at present, there is no such book available to answer such valuable questions which will form building stones of her future, it was felt to fill up this vacuum by writing a small treatise on this, consistent with the standard of her education and thoughts at this teenage of life in simple language. The present work is the result of this desire. I do hope that the book will serve the purpose for which it has been written.

Dr. (Prof.) Nawal Kishore

THE HIDDEN CHANGE

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BRIEF BIODATA OF DR. NAWAL KISHORE



Dr. Nawal Kishore

Doctor Nawal Kishore, is a 1945 graduate of S.N. Medical college, Agra. He stood first in all the examinations and was awarded 18 Academic medals and prizes in his medical career. He has the distinction of being the First MS in Obs./Gyn. in the State of U.P.

He joined as a lecturer in Obs./Gyn. S.N. Medical College, Agra, in Jan. 1946 and later rose to the post of Professor and Head on which he worked from 1954 – 1980.

Was awarded the Rockefeller Scholarship in 1952, and went to USA. Was awarded FACS (USA) by the American College of Surgeons in 1954.

Was Principal, S.N. Medical College, Agra; Dean, Faculty of Medicine, Member-Executive Council of Agra and Rohilkhand Universities. Was member of the Fellowship Committee of the American College of Surgeons and Board of high school and Intermediate Education and the Court of Banaras Hindu University.

In 1976, went to England and Stockholm on a WHO fellowship. On his return, he achieved the distinction of performing the largest number of operations in Northern India in the field of family planning.

Published 102 original research papers in National & International Journals, worked in research projects of ICMR, WHO, SMRC etc. and guided 112 Thesis for MS. In Obs. & Gynaecology.

He has the unique distinction of being the only student whose name appears on all the Three Honours Boards of the S.N. Medical College, Agra.

His streak of social work and dedication has endeared him in the hearts of all classes of society, and people still remember his name. It is unparalleled that after 2 decades of his retirement the Department of Obs./Gyn. At S.N. Medical College, Agra, is still known as 'Dr. Nawal Kishore's Ward' and he himself is known as 'TEACHER OF TEACHERS'.

In 1994, was conferred D.Sc. by Agra University for his teaching achievement, academic contribution and social work.

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CHAPTER 1

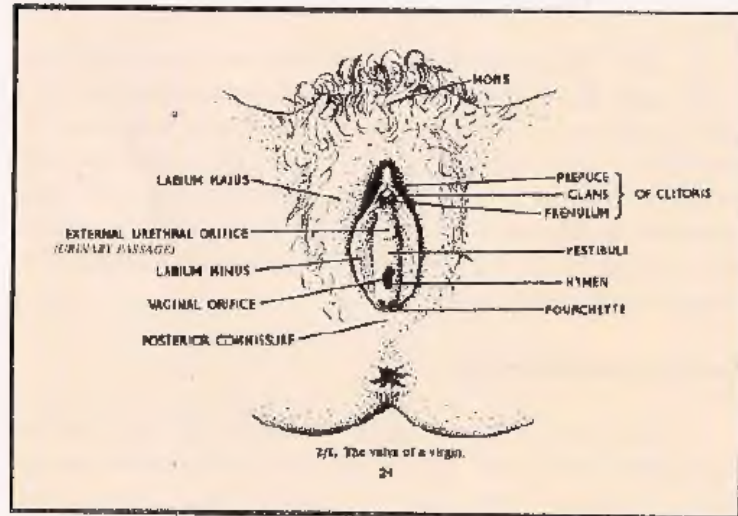
KNOWING YOURSELF

With changing times it has become necessary that young girls know their body structure. Awareness of how God made them is essential so that they can take care of themselves. As a child grows, curiosity about oneself increases and the gradual changes which occur with age should be understood. An attempt has been made to explain in simple terms the various parts of the female reproductive system and its functioning.

External Genital Organs

The private part (vulva) of a mature girl lies in between the inner sides of thighs in front of the stool passage (anus). It has two hairy skin folds called Labia Majoras and an opening in the middle called Vaginal mouth. Above the vaginal mouth lies the opening of the urinary passage through which urine is passed. The vaginal opening is guarded and covered by two triangular skin folds, one on each side called Labia Minora. These are joined in the upper part with a small penis like structure called Clitoris. The tip of the clitoris is bulbous and covered by a skin fold called prepuce. Clitoris is full of nerves and becomes erect on sexual excitement. The vaginal opening in the middle of Labias leads to a canal called the Vagina. At the opening of vagina lies a ring of membrane with a small opening called Hymen. Bartholins glands lie on the sides of this opening. The opening of this gland is only visible during infection, as a red area. The secretion is colorless and has a characteristic odour. It is produced mainly in response to sexual excitement during

which large amounts are poured onto the vulva and act as a lubricant. Skene's Tubules are present on either side of the urethral opening and are an important site for infection.



Thus the private parts of a girl has three openings, from above downwards:-

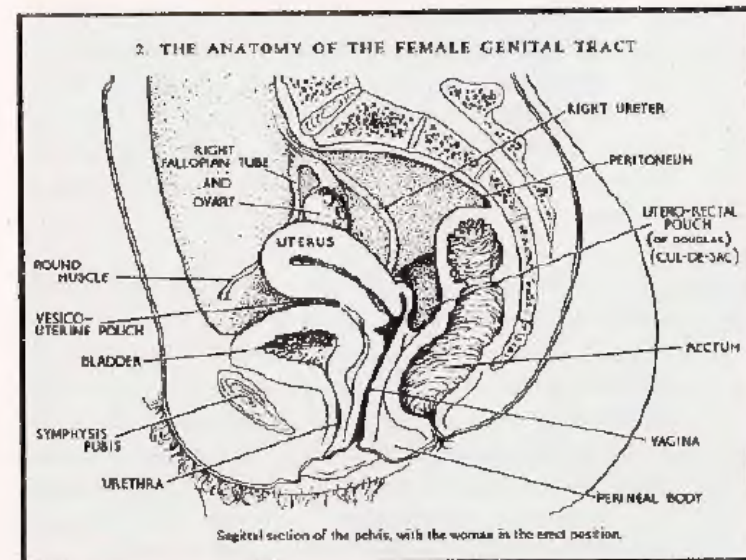
- (1) Urinary passage
- (2) Vaginal opening
- (3) Anus.

The front part of the vulva is a pad of fat covered with hairy skin over the pelvic bone called Mons Pubis. Behind the vaginal opening lies a muscular area covered with skin called Perineum. Behind the perineum lies the anus for passage of stool.

Internal Genital Organs



The female internal genital organs have two sex glands, one on either side, inside the pelvic bone. There is a hollow, muscular, guava shaped organ called the uterus in the middle, with 10 cm. long fallopian tubes, one on either side connecting the uterus with the ovaries. The lower prolongation of the uterus is called the cervix, which hangs in the vagina. This vagina is a hollow 10 cm. long passage.



Puberty

It is a process of growth and maturation that leads to reproductive capability in an individual either male or female. The physical changes which occur during puberty include development of secondary sexual characters, changes in the lean body mass, fat distribution as well as skeletal growth and maturation resulting in final adult height.

Puberty is the main event of adolescence, defined by WHO as the age between 10-19 years. In India, Adolescence Period has been defined as the period between ages 10-18 years. Normal puberty starts by the age 8-12 years and takes 3-4 years for completion of secondary sexual characters.

Physical changes during puberty:

1. Breast Development:

A pair of female breasts remains rudimentary in front of the chest wall from birth till puberty these develop on each side of midline. Initially they are the size of a lemon at puberty. Then they attain the size of an orange in adolescence and finally to hemispherical mounds.

The female breast is a skin-covered gland made up of milk glands, ducts and fat. At the center of each breast lies a circular pigmented area called Areola. At the center of the areola lies a projecting cutaneous bud called nipple. In the nipple are ducts of 15-20 milk glands situated deep inside the breasts. Rest of the breast is made up of fat. Female breasts are essential reproductive organs for sexual stimulation and to produce milk to feed the baby.

Unilateral (one sided) breast development is common in early puberty and there may be a gap of 6 months before the other side commences development. Mild asymmetry may persist lifelong.

2. Pubic Hair Development:

Generally appears 6 months after the development of the breasts. Complete development takes 3-4 years.

3. Axillary Hair:

It is highly variable. It generally occurs 1-2 years after the onset of pubic hair development, but may take even 3 years. Rarely axillary hair development precedes pubic hair development.

4. Cutaneous Gland Development

The apocrine glands of the axillary and the pubic regions become active simultaneously with the appearance of hair resulting into a characteristic odour. There is also increase in activity of sebaceous glands (sweat glands) thus contributing to the development of pubertal acne. The secretions of the Bartholins and Apocrine glands are responsible for lubrication of the vulva and vagina. This is a normal, healthy discharge.

5. Vagina:

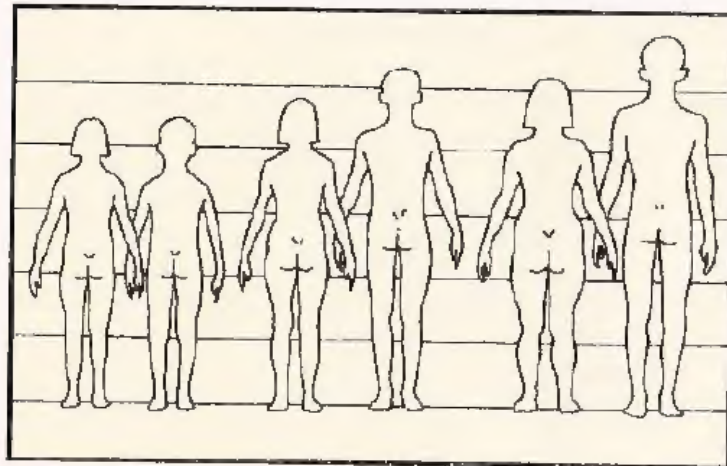
The lengthening of the vagina occurs due to effect of hormones, specially oestrogens.

6. Uterus:

The size of the uterus increases at puberty due to increase in muscle mass.

Growth Spurt:

The peak velocity of growth is achieved at the age of 11-12 years. During puberty a girl gains about 25 cms. The rapid decline in growth rate subsequently limits the height gain after menarche. The height gain after the age of 18 years is still significant, being .5-3.75 cms. The initiation of sexual maturity occurs only after the attainment of a height of 137 cms. and a weight gain of 27 kg. Menarche requires a minimum height of 143 cms. and a weight of 35 kgs.



Weight and Height

During early puberty the lean body mass increases due to increase in muscle mass and peaks at menarche. Later the fat mass begins to increase and attains two times the total mass as in comparison to boys.

The height of females is more dependent on sexual age than the chronological age. Thus the bone age determines the final adult height potential of a girl.

Age (years)	Height (cms)		Weight (kgs)	
	Boys	Girls	Boys	Girls
10+	127.3	127.5	22.3	22.6
11+	131.7	139.1	24.2	24.8
12+	136.4	137.5	26.5	28.1
13+	141.5	143.2	29.2	31.9
14+	147.3	146.5	33.3	35.1
15+	153.0	148.6	38.0	38.4
16+	157.8	150.6	41.6	40.7
17+	163.3	151.2	44.9	41.9
18+	161.8	150.8	46.3	42.2
19+	163.4	151.6	47.5	43.6

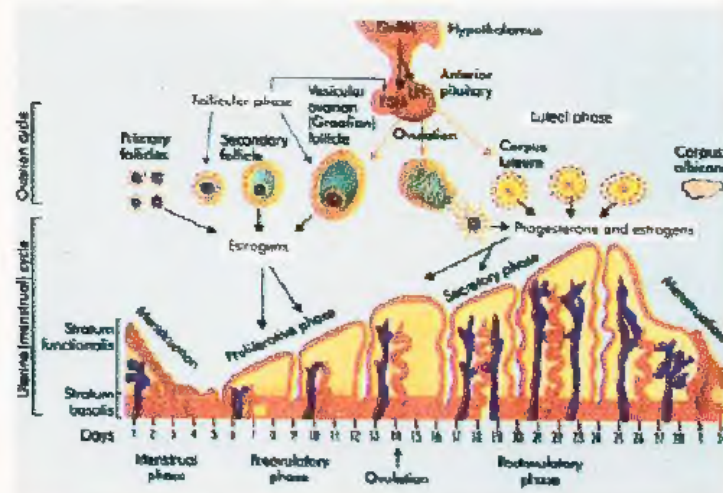
Menarche

Menarche is the onset of menses. It is a late event occurring after the peak of growth has passed. It generally occurs 2 years after the onset of breast development. There is a significant variation in the length of the cycle and the

amount of menstrual flow. The majority of menstrual cycles in girls aged 12-14 years are anovulatory.

Menstruation

The shedding of uterine lining along with bleeding from the uterine bed is called menstruation. It results from play of hormones from brain and pituitary gland on the ovaries. Ovaries in turn produce female sex hormones (estrogen and progesterone) throughout the menstrual cycle, that act on the uterine lining to prepare it to receive fertilized egg for pregnancy. Menstruation every month means that



mature uterus is functioning normally. It is not bad blood that the body discharges, as is the notion of most women. This is not the period of illness. This "health illness" taboo is a superstition that is handed down from generation to generation.

The girl gets menstruation every month at regular intervals of 21-28 days. (Average-28 days) At puberty, menstrual bleeding is slight and after a year or two the flow increases and lasts for 2-6 days (average-4 days). Menstrual blood loss amounts to 50-90 ml. per month. Normal menstrual blood does not clot. The colour of menstrual blood is dark red with shreds of uterine lining.

During menstruation, personal hygiene is to be taken care of by daily bathing and changing of blood soaked sanitary towels frequently. Some girls may get painful cramps in the lower abdomen and backache during menstruation called Dysmenorrhoea. Many girls also suffer from psychological problems. A girl should take more rest for the days during which she is bleeding.

Any deviations from the above should be consulted by a doctor.

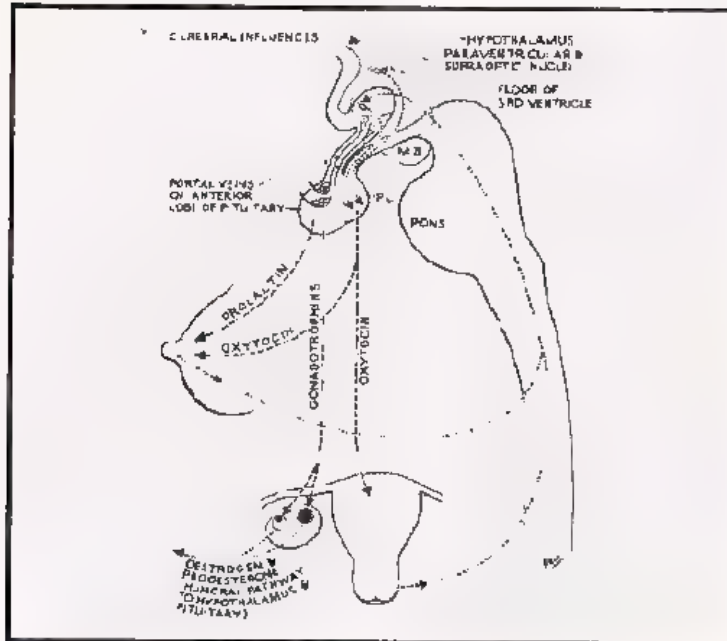
Ovulation



Both the ovaries of the female child, at birth, contain about 3-5 Lacs primary oocytes, but at puberty this number is halved. Out of these about 500 are destined to mature during reproductive life. The remainders are lost by some degenerative process.

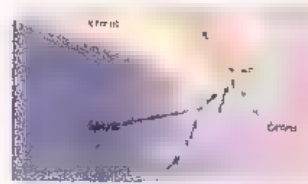
Hormones released from the Hypothalamus and Pituitary act on ovaries as a result of which one egg matures every month in one of the ovaries and gets discharged from the ovary. This occurs around 14 days prior to the expected

date of menstruation and is called ovulation. The discharged egg enters the fallopian tube and lives for 24 hours, traveling down the tube to the uterine cavity. In the meanwhile, the uterine lining builds up for the reception of the ovum. If the egg is not fertilized it dies and the lining of the uterus sheds off, resulting in menstruation.

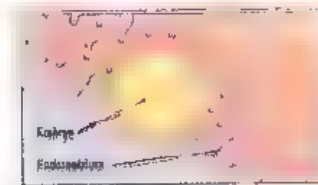


Pregnancy

Through sexual intercourse, semen is discharged deep



into the vagina. Sperms deposited at the mouth of the uterus swim up through the uterine cavity to the lumen of fallopian tubes where few sperms enter one tube and meet the ovum. Only one sperm penetrates the egg and fertilizes it. The fertilized egg now travels through the fallopian tube to reach the uterine lining which is ready to receive it. This implanted egg now starts as pregnancy inside the uterine cavity. The growing pregnancy inside the uterus is called foetus.



Since the growing embryo (foetus) occupies the uterine cavity, a woman is amenorrhic i.e. she does not get her periods for 9 months and even after delivery till breast feeding continues. After delivery, uterine lining again prepares itself for menstruation under the influence of pituitary and ovarian hormones.

At times more than one egg can be fertilized resulting in multiple pregnancies.

During the child bearing age, a woman can be pregnant at the interval of every 1-2 yrs. if she has unprotected coitus. Too many pregnancies can cause ill health and even death due to complications. These can be avoided by the current knowledge of birth control measures.

This is a brief description of the normal structure and function of the female reproductive system.

CHAPTER 2

PSYCHOLOGICAL AND EMOTIONAL ASPECTS OF A YOUNG GIRL

Adolescence is described as the period of body growth and mental development that takes place between the onset of puberty and the attainment of physical and emotional maturity. Girls undergo greater physical change than boys and thus attain puberty earlier and take less time to reach maturity. Several factors come into play during psychological maturity. These include the reactions of the adolescent girl to her changing body, her emotional needs, relationship with her peers and relationships within the family.

The initial part of adolescence is recognized by physical sexual differentiation and the onset of activity of sex organs. The next important aspect is concerned with the mental and emotional adaptation to sexual function and surroundings.

Many psychological changes take place during this period of adolescence. For easier understanding, we may divide them into:

1. Early adolescence or Pubertal phase
2. Mid adolescence or Transitional phase
3. Late adolescence or Adolescence proper

The first reaction of a young girl occurs at Menarche. This is an important psychological milestone in her

development. Depending on her upbringing, for some, this is stepping into femininity and for some an inconvenience. Few girls feel a sense of shame, contamination and inferiority. Social customs in India dictate isolation during menses and are a cause of depression.

During this phase, the adults have difficulty in communication, as the young girl is preoccupied with her body changes and is flooded with strong feelings, which may subconsciously harbour on erotic longings. This is the time when she challenges her parent's authority. She may be able to communicate properly with another female peer. These moments demand a sympathetic and frank attitude from the elders who may try to calm their turbulent emotions.

Gradually, the girl starts getting extreme mood changes, which swing from the abstract to idealism. They try to look for people they can identify with. Her 'confidante' becomes another girl rather than her mother. This is also the time for strong sexual arousal. Masturbation is commonly practiced. The sex urge becomes manifest and is often homosexual at first being evidenced by an unreasonable 'passion' for a particular older girl or woman. This phase is usually followed, sooner or later, by heterosexual impulses and activities. This prepares them for the relationships to follow.

During the late phase of adolescence, the fantasy of sexual relationship may turn into 'real' relations with the male friends. In our society, with much stricter control, the girl fantasies with filmstars etc.

During puberty and adolescence, the psychological changes are profound. The happy-go-lucky tomboy changes into a self-conscious girl who is interested in her appearance.

may be moody and is often imaginative and curious. She feels she is grown up, finds it more difficult to obey orders and looks for independence.

Some girls are extremely embarrassed by the changes in their figure, especially by the development of their breasts, which they attempt to hide by adopting a round shouldered posture. On the other hand, there are many early teenagers who worry because their breast development seems poor to them.

It should be understood that extreme depression may lead to loss of appetite, disinterest towards studies, drug abuse and mania. These conditions are serious and should be addressed to a psychologist.

Conclusion:

The problem of adolescence is that the girl regards her self as grownup and adult whereas physical and emotional maturity is not achieved until several years after menarche. The management of the adolescent is difficult and directed to ensure that a balanced adult emerges from a testing period. The girl should not be teased or ridiculed but her move towards independence respected and controlled within limits. Affection and trust should take the place of orders. She should be encouraged to be communally occupied either in work or healthy recreation within the limit of her physical strength. Failure to provide such controlled sympathy will lead to inadequate preparation for being a future wife and mother.

CHAPTER 3

NUTRITION AND HEALTH

Good nutrition is a basic component of health. It is of prime importance in the attainment of normal growth and development and in the maintenance of health throughout life. Orthodox medicine has for long neglected the role of nutrition in the promotion of health and prevention of disease. The discovery of vaccines has discovered the science of nutrition.

Despite these advances, malnutrition is widely prevalent in many parts of the world. It is one of the greatest international health problems of the day. Its association with infection, its complex links with fertility and family size, physical development, and mental growth and immune mechanism of the body are certainly new dimensions.

The terms food and nutrition are sometimes used synonymously. No clear distinction is made between food and nutrients.

The dietary constituents of food are proteins, fats, carbohydrates, vitamins, minerals and water. Most contain all these factors, but in varying proportions. The human body is built up from these six constituents and has the following approximate composition:

- | | |
|--------------------|-----|
| 1. Water | 63% |
| 2. Vits & Minerals | 7% |

- | | |
|-----------------|-----|
| 3. Protein | 17% |
| 4. Carbohydrate | 1% |
| 5. Fat | 12% |

Foods are sometimes grouped on the basis of their predominant functions:

1. **Energy Yielding Foods.** These food are rich in carbohydrates and fat eg. Cereals, sugar, roots and tubers.
2. **Body Building Foods:** These foods are rich in protein eg. Meat, liver, fish, milk and pulses.
3. **Protective Foods.** These are foods rich in proteins, vitamins and minerals eg. Milk, eggs, liver, green leafy vegetables and fruits.

Diet in India is generally poor in respect of Protective Foods.

The main functions of food are:

Provision of energy

1. Body Building and repair
2. Maintenance and regulation of tissue function

Protein Requirements:

Protein requirements vary from individual to individual. Apart from age, sex and physiological state factors like infections, worm infestations, emotional disturbances and stress situations can affect a person's protein requirement.

It is customary to express protein requirements in terms of body weight. Its recommended requirement is 1.0 gram protein per kg. body weight for an Indian adult.

Recommended Protein according to Age:

AGE	PROTEIN INTAKE PER DAY	
(YRS.)	(GM / KG BODY WEIGHT)	
<u>INFANTS</u>		
(Months)		
6 - 3	2.3 in terms of milk protein	
3 - 6	1.8 in terms of milk protein	
6 - 9	1.8 partly vegetable protein	
9 - 12	1.5 partly vegetable protein	
<u>CHILDREN</u>		
(Years)		
1 - 3	1.8 ²	
4 - 6	1.5 ⁶	
7 - 9	1.3 ⁵	
	Male	Female
10 - 12	1.24	1.17
13 - 15	1.10	0.95
16 - 18	0.94	0.98

Sources of protein can be divided into following groups :

ANIMAL FOODS	PROTEIN CONTENT (%)
Hen's egg	13.3
Cows milk	3.5
Meat	19.8
Fish	21.5
CEREALS	
Maize	11.1
Milled rice	7
Whole wheat	11.8
PULSES	
Benga Gram dal	22.5
Black gram dal	24
Green gram dal	24
Red gram dal	22.3
NUTS AND OIL SEEDS	
Groundnuts	26.7
Fresh coconut	4.5
Soya bean	40
Sesame	18.3

Protein – energy malnutrition is the most wide spread form of malnutrition. It occurs frequently among infants and young children between 1-3 years of age. It is not only an important cause of childhood morbidity and mortality but also leads to permanent impairment of physical and possibly mental growth of those who survive. The most serious form of Protein-energy malnutrition are KWASHIORKAR and MARASMUS.

Carbohydrates:

Carbohydrates are composed of carbon, hydrogen and oxygen. They are the main sources of energy. There are three main sources of carbohydrates viz starch, sugar and cellulose.

1. **Starches:** are present in abundance in cereals and millets, roots and tubers, and plant stems.
2. **Sugar:** is present in sugar cane juice, it's powder and crystals.
3. **Cellulose:** This is the fibrous substance lining fruits, vegetables and cereals.

Dietary fiber has been considered for a long an unimportant component of human diet, probably because it scarcely has any nutritional value. A wide range of diseases are now being thought to be related to fibre deficiency such as constipation, colonic carcinoma, atherosclerosis, coronary heart disease, appendicitis and gall stones.

The optimum quantity of carbohydrate in balanced diets is placed between 50-70 % of total energy intake. Most Indian diets contain excessive amounts of carbohydrate. It's

reserve in human adult is only about 500 g ns. When man is fasting this reserve is rapidly exhausted.

Fats

Fats and oils are important items in the diets of people. They contain carbon, hydrogen and oxygen and are composed of fatty acids.

Fats are concentrated sources of energy. Fats improve the palatability of food. They are essential for absorption of Vitamins like A, D, E and K. Vegetable fats are a good source of fatty acids.

Fats in the body provide support to the viscera such as heart, kidneys and intestines. Fat beneath the skin provide insulation against cold.

Dietary foods are derived from two main sources:

<u>Animal sources:</u>	They are ghee, butter, lard and fish oils.
<u>Vegetable sources:</u>	They include various edible oils—groundnut, mustard, cottonseed, sunflower, rapeseed and coconut oil.

The suggested fat intake is fixed at 20% of total energy and this would come to 40-20 grams of fat per day. About half of this will come from invisible fats present in foods like cereals, pulses, nuts, vegetables, milk and milk products, fish, meat and eggs.

Vitamins

Vitamins are complex chemical substances required by the body in very small amounts. They do not yield energy but act as catalysts in various body processes. Since vitamins cannot be manufactured in the body, they have to be supplied through the diet. So far, about 15 different types of vitamins have been isolated in a pure state from natural foods.

Vitamins are divided into two groups:

1. Fat soluble vitamins eg. A1 & A2, D, E and K.
2. Water soluble vitamins eg. Vitamins of group B (B1, B2, B6, B12) and vitamin C.

Each vitamin has specific function to perform and deficiency of any particular vitamin leads to specific deficiency disease.

Vitamin A

It has several functions in the body. The known functions are:

1. It plays a crucial role in normal vision.
2. It is needed for the health of the epithelial cells viz skin.
3. It is connected with skeletal growth.
4. It is anti-infective.

Important sources of vitamin A are liver, eggs, yolk, butter, cheese, whole milk and fish. Plant sources are fresh, dark green leafy vegetables such as spinach, amaranth, methi,

cabbage, carrots, pumpkin, mango and papaya. Fish and liver oils are the richest sources of vitamin A.

Vitamin A deficiency most commonly affects the eyes in form of night blindness and xerophthalmia.

Vitamin D:

Vitamin D is required for the formation of healthy bones and teeth.

This vitamin is unique because it is available both from sunlight & from foods of only animal origin like liver, eggs and butter.

Deficiency of vitamin D leads to rickets in children and osteomalacia in adults.

Vitamin E:

Vegetable oils, egg yolk are particularly rich in vitamin E. Deficiency of vitamin E has been associated with habitual abortion, testicular degeneration, muscular dystrophy, myocardial degeneration. A current estimate of vitamin E requirement is 15 IU per day for normal adult.

Vitamin K:

Vitamin K occurs in the fresh green vegetables and fruits. It is required for prothrombin formation in the liver. Vitamin K deficiency increases the blood clotting time and this is considerably prolonged. The adult requirement for

vitamin K is unknown. It is considered that in a healthy person, the average diet provides an adequate supply of vitamin K.



Water Soluble Vitamins (E.g. Vitamins of Group B & C):

Vitamins of group B

1. **Vitamin B1:** It is essential for the utilization of carbohydrates in the body and maintenance of good appetite and normal digestion. Vitamin B1 deficiency causes neurological and mental disturbance. Important sources of this vitamin are dried yeast, unmilled cereals, pulses, oilseeds and nuts. Meat, fish, eggs, vegetables and fruits are relatively poor in this vitamin. Milk is an important source of this vitamin for infants. The recommended daily allowance is 0.5/1000 Kcal. The body content for this vitamin is 25 mg. and if more than this is given it is merely lost in the urine.
2. **Vitamin B2:** It functions as a coenzyme in tissue oxidation and respiration. Good source of vitamin B2 are liver, meat, milk, eggs and growing leafy vegetables. Its deficiency can cause angular stomatitis, soreness of the tongue, redness and burning sensation in the eyes etc.
3. **Niacin:** It is essential for normal functioning of the skin, intestinal tract and the nervous system. Important sources are liver, groundnut, whole cereals, pulses, meat and fish. Its deficiency causes diarrhoea, dermatitis and dementia. The recommended allowance is 6.6 mg /1000Kcal.
4. **Vitamin B6:** It plays an important part in the metabolism of amino acids, fats and carbohydrates and also plays a vital role in the amino acid metabolism in

the brain. Its deficiency causes convulsions. Foods rich in Vitamin B6 are liver, meat, whole cereals and legumes. Average requirement for adult would be about 1.5 mg. per day.

5. **Pantothenic Acid:** It is widely distributed in animal and vegetable foods. No deficiency symptoms have been reported in man. It is considered that about 10 mg. of Pantothenic acid will satisfy the daily needs.
6. **Folate:** Foliates are essential for the synthesis of DNA. The richest sources of folates are liver, egg and leafy vegetables. Overcooking destroys folic acid. Folate deficiency causes anaemia and gastrointestinal disturbances. Severe folate deficiency may cause infertility or even complete sterility. Recommended allowance for healthy adult is 100 mg. per day, while during pregnancy and lactation its daily requirement goes upto three times.
7. **Vitamin B12:** It is necessary for the synthesis of DNA. It is present only in foods of animal origin like liver, meat, eggs and milk. Its deficiency may cause anorexia and infertility. Recommended intake of Vitamin B12 is 1 gm. Per day among normal adults.

Vitamin C:

Its main functions are enzymatic wound healing, haemorrhages, infections and stress. The main dietary source of Vitamin C are fruits — Amla, orange, guavas and vegetables—green leafy, roots and tubers, germinating pulses. Animal foods such as meat and milk. Its deficiency results in scurvy, multiple haemorrhages, anaemia and

weakness. The recommended daily requirement is 40 mg per day for adults.

Minerals:

The body contains about 24 minerals which are needed for the formation of bones and teeth, maintenance of osmotic pressure of body fluids and for serving specific functions such as blood formation by iron and normal functioning of the thyroid by iodine.

These minerals include calcium, phosphorus, iron, sodium, potassium, chlorine, sulphur, magnesium, iodine, zinc, manganese, molybdenum, cobalt, selenium, chromium, bromine, fluorine, aluminum, arsenic and a few others. Some of these minerals are called Trace elements, as they are required by the body in micro quantities. Many of these minerals are widely distributed in foods.

ENERGY REQUIREMENTS

The total energy requirement of an individual is made up of two main components:

1. basal energy
2. energy required for the actual physical activities.

Basal Metabolism:

It is the energy expenditure of a person who is relaxed and comfortable in the morning soon after awakening and 14 hours after the last meal. This is the energy required for such

vital functions such as respiration, blood circulation and maintenance of body temperature. In Indian Reference man is defined as one who is of 20-39 years of age, and weighs 55 kg. He is free from disease and is physically fit for active work. He has a body surface area of 1.40 sq. mts. On the basis of this, the Indian Reference man expends, during 8 hours of sleep, a net of 493 Kcal (unit of energy) and the woman a net of 368 Kcal of energy. This is the first step in the calculation of the total body energy requirements of a person.

Energy expenditure "Off work":

The energy expenditure on non occupational activities such as sitting, standing, dressing, undressing, walking etc. for Indian Reference man is 1220 Kcal. And for Indian Reference woman is about 826 Kcal. for 8 hours off work.

Energy expenditure for work

Additional calories are required for the performance of daily work. Following values for different types of work are suggested:

<u>KIND OF WORK</u>	<u>KCAL / KG / HOUR</u>
Light	1.7
Moderate	2.5
Heavy	5.8

Fecal loss of Energy:

Necessary allowance for Fecal loss of energy should be made which is about 10 %

Energy requirements for Indians recommended by the Nutritional Expert Committee of ICMR are given below, which can be used as a guide for planning food requirements

ACTIVITY	MALE (55 KG)	FEMALE (45 KG)
	Kcal / day	Kcal / day
Light work	2400	1900
Moderate work	2800	2200
Heavy work	3900	3000
CHILDREN	MALE	FEMALE
	Kcal / kg	Kcal / kg
10 – 12 yrs	2420	2260
13 – 15 yrs	2660	2300
16 – 18 yrs	2820	2200

PREGNANCY	2 ND , 3 RD .TRIMESTER	+300
LACTATION	FIRST 6 MONTHS	+550
	6—12 MONTHS	+400

It is found that children above the age 13 years need as much energy as adults. This is because they show a good level of activity, almost equal to hard work by adults. This is also the age when puberty sets in and there is a spurt in growth and increase in the metabolic rate.

The physiological energy value of foods, per gram is as below:

PROTEINS	4 Kcal/gm.
FAT	9 Kcal/gm.
CARBOHYDRATES	4 Kcal/gm.

Balanced Diet

A balanced diet is defined as one which contains different types of food in such quantities and proportions that the need for energy, amino acids, vitamins, minerals, fats, carbohydrates and other nutrients is adequately met for maintaining health, vitality and general well being and also makes a small provision for extra nutrients to withstand short duration of leanness. If diet lacks in one or some of these elements, malnutrition results and the human body shows illness.

BALANCE DIETS (CONSUMPTION IN GMS)											
Kcal /gm.	FOOD ITEMS	ADULTS				CHILDREN					
		LIGHT WORK		MODERATE WORK		HEAVY WORK		1 3 YRS		4 6 YRS	
		M	F	M	F	M	F	M	F	M	F
3.4	Cereals	460	410	520	440	670	575	175	270	420	380
3.5	Pulses	40	40	50	45	60	50	35	35	45	45
	Leafy Vegetables	40	100	40	100	40	50	40	50	50	50
	Other Vegetables	60	40	70	40	80	100	20	30	50	50
	Roots and Tubers	50	50	60	50	80	60	10	30	30	30
0.83	Milk	150	100	200	150	250	200	300	250	250	250
9	Oil and Fats	40	20	45	25	65	40	15	25	40	35
4	Sugar and Jaggery	30	20	35	20	55	40	30	40	45	45

With the change in the life style and dress, the importance of nutrition and nutritive foodstuff have lost its value against aerated and flavored non nutritive drinks and "Junk Food".

You will find few takers of fruit juices like Fruity, Milk Shake and Mazaa as compared to Coca Cola and Pepsi etc, specially so in the younger age group. The billions spent in purchase of these so called "in" drinks serve no useful purpose other than satisfying the palate. Although we are not against the use of these drinks and food, it should be kept in mind that better food products, for the development of body and mind, are available which contain less or no preservatives and are not harmful to our body.

Certain psychologists feel that these preservatives and artificial aromas affect the mental status and have a role in behavioral problems of the youngsters.

Let us not forget the old adage

" YOU ARE WHAT YOU EAT "

CHAPTER 4

VAGINAL DISCHARGES

Vaginal discharges are a normal physiological entity. These are a composition of secretions from the uterus, cervix, and secretions from the Bartholin's, sebaceous, sweat, and apocrine glands. This discharge in a normal healthy woman is such that the vulva feels comfortably moist and there is an occasional staining of the undergarments. These secretions normally increase during midcycle of periods, premenstrually, during pregnancy, after abortions and sexual excitement.

The commonest complaint of ladies and teenagers is vaginal discharge generally referred to as Leucorrhoea. Leucorrhoea means 'a running of white substance' which when in excess leaves a brownish yellow stain on the clothing. This is an annoying symptom and leads to soreness of the vulva when the person is unhygienic and does not change frequently. It does not cause any itching or pruritis nor does it lead to any offensive discharge.

Leucorrhoea can occur in all age groups. Newborn babies can have this discharge for a few days due to uterine secretions. Teenage girls also complain of such discharge specially few years around menarche. Other factors like malnutrition, ill health, anxiety and neurosis are responsible for causing Leucorrhoea in otherwise normal women. It is important to understand that these discharges are a natural and physiological occurrence and do not lead to dreaded diseases like cancer. It is a common belief in the villages that Leucorrhoea is due to 'shedding of bones' and leads to severe

form of malnutrition. This is a myth and needs to be broken. Women in the elderly age group, specially after 40 years of age need to be more cautious and should consult a doctor if they suffer from discharge.

Certain symptoms like pruritis, blood stained discharge, burning in micturition, fever and general debility need the help of a doctor.

Various types of discharges are:

1. Bacterial infections lead to milky, viscid and moderate quantity of discharge.
2. Fungal infections lead to white, curdy discharge with fetid odour.
3. Neoplastic causes can lead to brownish, watery discharge with musty odour. Frank bleeding can also occur in cases of large lesions.
4. Viral infections and allergies can also cause serious types of discharges.

Other causes of vaginal discharges are:

1. Deficient Hygiene: The closeness of the anus to the vulva leads to infection due to poor toilet training and cleaning of the anus towards the vulva. Synthetic clothes like nylon lead to improper aeration and predisposes to infection.
2. Sexual Abuses: Concealment by an adolescent of abuse leads to delay in treatment.

3. Foreign bodies: These can be inserted accidentally by children and lead to vulvovaginitis eg seeds, pins etc.
4. Menopausal causes: Senile vaginitis and cancer are the common causes

Treatment:

Improving the general health and debility of the person improves the hormonal content of the vaginal epithelium, improves the antiseptic barrier and reduces the vaginal transudate thus leading to reduction in discharge or leucorrhoea

Proper hygiene should be maintained with regular cleaning of the private parts specially after relieving oneself

Discharge along with itching, redness, burning and foul smell require the help of a doctor and self medication should be avoided. In aged ladies, treatment of any type of discharge is necessary by the doctor.

Finally it cannot be over emphasized that leucorrhoea is generally not a disease and does not lead to debility. Ladies do not have any "shedding of bones" or "feminine semen" and this myth should be broken.

CHAPTER 5

Almost one fourth population of our country comprises of girls below 20 years of age. The adolescent girl who embodies both childhood and womanhood is a barely discernible shadow in our national policy and awareness. It is precisely this segment of our population which is neglected in health, education and have inferior position in society.

Due to the preference of male child, discrimination against female begins even before birth by abortions of female fetuses. Female infanticide may be disappearing but the female discrimination by the parents is irrefutable. Girls are breast fed for a shorter period than boys, get less nutritious food and less medical attention than their brothers. They have to share the household burden with the mother and their education thus suffers. This deprivation during childhood leads to under nourished, psychologically unstable and physically weak adolescent girls with a sense of inferiority and conflicts.

Our aim is to improve the quality of life and give importance to this crucial period of life. It is thus essential to educate young girls regarding their physical, mental, physiological, nutritional and other related problems. This would lead to healthy young girls and give a boost to their self esteem making them stable and mature women by the time they become future mothers.

COMMON PROBLEMS :

Amenorrhoea :

A girl who has not developed secondary sexual characteristics by the age of 14 years, or failure of the onset of menses by age 16 years regardless of the presence of sexual characteristics

Puberty Menorrhagia:

Prolonged heavy bleeding during menstruation or throughout the month. This can be quite troublesome for the young girl. It is normally a physiological disturbance.

Dysmenorrhoea:

Crampy, colic type pains, worse on the first and second days of menses. This may be associated with nausea, fainting, premenstrual tension and emotional disturbances

Hirsutism and Virilisation:

Hirsutism is distribution of coarse hair in a female which is normally present in a male i.e. upper lip, chin, chest, lower abdomen and thighs. Menstrual



disturbances like long cycles (oligomenorrhoea) and amenorrhoea may be associated with it.

Virilisation refers to a condition of Hirsutism associated with other male characteristics such as temporal baldness, hoarse voice, lengthening of the clitoris and muscle enlargement as well as breast atrophy.

Premenstrual Syndrome: (PMS)

It is a disorder of non-specific somatic, psychological symptoms occurring in the premenstrual phase of the menstrual cycle. Many girls experience premenstrual symptoms 7-10 days before the onset of periods. These can be in the form of irritability, lassitude, malaise, headache, gastrointestinal upsets like colonic spasm and constipation, frequency of urination, fullness in the breasts and abdomen. Many girls suffer from a type of severe headache called menstrual migraine

Ovulatory Pain (Mittelschmerz) :

Many a times a girl feels abdominal discomfort in between her periods, usually about the 14th day of the cycle. This pain can be from mild discomfort to acute pain but rarely lasts more than 12 hours

Urinary Tract Infection (UTI) :

There is frequency and scalding pain during urination. The urine has a fishy smell and the lower abdomen aches. At times there is urgency and hesitancy of micturition along with malaise, fever and backache

Acne Vulgaris :

About 80-90% of adolescent girls face variable degrees of this dermatological problem. It is an inflammatory skin disorder of the sebaceous unit seen as comedones, papules, pustules, cysts and nodules on the face. It starts in adolescence and usually resolves by the mid twenties. Oily food, chocolates, humid climate and certain cosmetics contribute to the development of these. Tension and premenstrual phase flare up acne.

Vaginal Discharges :

These are normal discharges which stain the under clothing. The discharge is not itchy but has a fishy odour which increases after menstruation.

Vulva vaginitis :

This is a common condition in the young girls specially due to poor hygiene. There is swelling and redness. The discharge is associated with pain and itching. Correction of hygiene by thorough cleaning of the area after every act of micturition and defecation takes care of the problem. Cotton under garments are very helpful.

CHAPTER 6

SEX URGE AND UNWANTED PREGNANCY

An adolescent girl gets to mature her body during puberty and growing up period from 13-18 years. She grows up to be a healthy woman. Her voice becomes sweet and her singing voice improves. Her mind also matures. Emotions prevail due to flooding of sex hormones in her body. Attraction towards the opposite sex develops. This is a trying period for a girl to control the emotions of sexuality. She should divert her mind by getting absorbed into study of religious books apart from her school books, games, singing, dancing, sewing, doing social work and learning how to cook from her mother.

Education provides ample opportunity to look after your health, learn fellowship and build a good moral character. This is the time for learning things and living a balanced life - full of restraint and responsibility. You are expected to behave as a responsible individual not easily swayed by emotions.

A student has to worship studies. Indian culture teaches discipline, self control and character building while as a student. Use your education as a weapon against all kinds of assault particularly related to sex. Attraction towards the opposite sex is natural and healthy, but what you consider as "love" for your friend is nothing but a flood of uncontrolled temporary sexuality. This may lead you to take a wrong step resulting in a wrong action, when you may find

yourself in a helpless situation. Apart from being betrayed by your partner, you lose your virginity forever. Also, pre-marital sex is not part of our Indian culture. In retrospect you shall never be able to forgive yourself.

A mental storm is the natural consequence of such an episode, the guilt suffered lifelong by yourself and by your parents, if they come to know about it. Moreover, two major disasters can follow. First and foremost is that you can become pregnant and have to suffer the pain and damage to health due to abortion. The second is that you may develop STD's like gonorrhoea, syphilis, AIDS etc, as the partner may be harbouring the infection.

Thus, you should protect yourself from the fire of sexual emotions by not having any physical relationship with your friend during your adolescence.

TEENAGE MARRIAGE AND PREGNANCY

Teenage marriage is a social culture in our villages and urban slums. The reasons being:

1. It is a tradition
2. A girl is regarded as a burden on the family
3. Early marriage protects girls from sexual assaults in a society filled with antisocial elements

The demerits of teenage pregnancy are:

1. A girl is deprived of her basic right of education
2. Health is ruined due to repeated child births with no knowledge of contraceptives
3. Development of uterine and cervical diseases

4. Population explosion and all the miseries of overpopulation

Teenage marriage and pregnancy is a crime under the Marriage Restraint Act according to which no girl can be legally married before 18 years. All girls, when married beyond 20 years, can be made safe from the ill effects of teenage marriage. Normally it is the duty of all responsible parents to feed the above information to their wards during their formative age. This chapter shall be useful to those girls who have been deprived of this privilege.



CHAPTER 7

SEXUALLY TRANSMITTED DISEASES

Most sexually transmitted diseases (STD's) are increasing in all countries throughout the world. They include syphilis, gonorrhoea, HIV infections, genital herpes simplex virus (HSV) infection, Genital warts, chlamycial infections, trichomoniasis and genital candidiasis.

The history focuses on genital symptoms. In both sexes this covers genital ulceration, rash, itch, pain or swelling and urinary symptoms, especially burning on passing of urine. In men the history should include details on urethral discharge and in women vaginal discharge and pelvic pain. General health must be recorded, including menstruation and recent medication, especially with antimicrobial or antiviral medicines. The sexual history should cover the number of sexual partners, rates, casual or regular relationship, symptoms and genital to genital, anogenital and orogenital contact. Condom use should be recorded. Past history should include treatment for STD and the family and obstetric history.

Examination

The genitals must always be examined and in females this includes internal examination. As several genital tract

infections may be present at the same time, certain investigations should be carried out in suspected cases.

Investigations:

Patients:

Females:

- Gram's stain and culture for Gonococci
- Chlamydia Test
- Smear for cytology
- Gram's stain for Cand.da, Trichomonas
- Culture for Candida and Trichomonas

Males:

- Gram's stain and culture for Gonococci
- Chlamydia Test

All Patients:

- Blood for VDRL
- Urine tests
- Swabs from ulcers
- Culture and sensitivity
- Blood for HBV, HCV and HIV antibodies

Spread:

The fundamental factor in spread is the acquisition of infection from one partner and its onward transmission to another. These depend on the availability of partners, which increases with population movement including migration from rural to urban areas and worldwide travel. Social factors which promote spread include poverty, alcohol, leisure time,

personal freedom, prostitution and ignorance. Only condoms provide some degree of protection by acting as a physical barrier.

Control:

Good control of STD's is based on a number of principles:

- a. Good clinical practice, including accurate diagnosis, effective treatment and close followup to ensure cure.
- b. Identification of potentially infected partners and their treatment.
- c. Education on STDs
- d. Screening of high risk cases like frequent travellers, commercial sex workers, merchant seamen, and homosexual men with multiple partners

HIV / AIDS in the Indian Context:

Human Immunodeficiency Virus (HIV) infection and resultant Acquired Immunodeficiency Syndrome (AIDS), have become serious health problems of the century. Around 60 million HIV infections are estimated to have already occurred in the world and there would be an estimated 80 million people with HIV infection by 2005 AD.

Although HIV appeared in India as late as 1986, a delayed entry as compared to the other parts of the world, yet it's spread in different parts of the country has been phenomenal and now we have an estimated >50 lac HIV infected people in the country. Of these, 7.5 lac are under 25

years of age and 2.5 lac are women. Available information suggests that 2-3 new HIV infections are occurring every minute in our country.

Modes of Transmission of HIV :

1. Sexual
2. Perinatal.
3. Parenteral

Infection with HIV essentially requires exchange of semen, vaginal or other body fluids/secretions, milk, blood or blood products infected with the virus. The risk of HIV transmission is greatest with vaginal and anal intercourse and greater for the recipient of penetrative sex. The risk of transmission during intercourse is considerably increased if there is concomitant presence of STD's, particularly if genital ulceration is present.

Perinatal (during pregnancy) transmission is of increasing importance globally as a result of increase in number of women with HIV infection who are of childbearing age. HIV infection may occur in utero, during delivery or postnatally (after delivery) as a result of breast feeding.

Intravenous drug users are at risk of HIV infections as a result of needle sharing. Transfusion of HIV infected blood from one individual to another is an efficient way of spreading disease.

Transmission of HIV following occupational exposure is not a common event, and is only likely after needle injury with HIV contaminated blood from an infected patient.

Clinical Features of Symptomatic HIV :

Following infection with HIV there is a latent period of a few weeks during which the virus spreads in the body. After this one third of individuals have a brief illness lasting about two weeks. There then follows an asymptomatic phase of variable duration. Some individuals have quite rapid progression to symptomatic disease over a year or two, whereas others remain asymptomatic and completely well for many years. AIDS is thus the long term consequence of chronic infection with HIV. The average time to developing AIDS from infection in most developed countries is 10-11 years, but there is considerable variant. Some will develop AIDS in less than 5 years but it is thought that eventually all HIV infected individuals will develop AIDS in due course.

Clinical Features of Symptomatic HIV disease:

GENERAL SYMPTOMS	GENERAL SIGNS
Fatigue	Lymphadenopathy
Fever	Wasting
Malaise	Ora. candida
Weight loss	Ora. hairy leukoplakia
Diarrhoea	Perinea. herpes
	Splenomegaly

Opportunistic Infections.

AIDS is clinically presented by recurring clinical events caused by a variety of microorganisms, including opportunist infections, the most important clinical manifestations of severe immunodeficiency in HIV disease.

They are mainly

1. Protozoal
2. Fungal
3. Bacterial
4. Viral Diseases.

Evidence suggests that in an immuno-compromised person, opportunistic infections are usually reactivation of previously acquired infections that did not produce disease at the time of infection.

Testing for HIV:

Although HIV infection may be suspected on clinical grounds, HIV infection is confirmed by demonstrating the presence of antibodies to HIV in serum. The ELISA test used is simple but moderately expensive. However all positive results are normally confirmed by the more precise immunoblot (western blot) test, which also detects the presence of anti-HIV antibodies sometimes the western blot may not be positive till 12 weeks after infection or even longer, and PCR (Polymerase chain reaction) tests can prove more accurate. Otherwise serial testing with the older tests may be needed however ELISA remains the routine screening test and is used by centers offering rapid testing services.

Preventive measures for HIV Transmission:

Sexual:

- Public awareness campaigns for HIV
- Safe sex practices- including use of condoms
- Targeting safe sex methods at sex industry workers

- Control of STD's

Parenteral

- Routine screening of blood/blood products for HIV
- Drug addicts to be explained safe needle exchange methods

Perinatal (during pregnancy)

- Routine HIV testing in antenatal clinics
- Avoidance of pregnancy in HIV-sero +ve
- Antiviral drugs during pregnancy, delivery and postnatally
- Avoidance of Breast feeding

Terminal Care.

Despite of all available treatment, AIDS remain a fatal disease. Good support from a partner, family and friends can be of great help. Symptomatic relief can be provided with judicious use of medicines

Conclusion:

HIV/AIDS epidemic in India is growing steadily. Mycobacterium Tuberculosis which is already a mammoth health problem, is expected to grow numerically keeping in with the HIV epidemic. More of it would be reactivation of the dormant infection rather than fresh infection. Diarrhoeal disease caused by a number of opportunist pathogens is feared to be another major clinical manifestation of AIDS. A host of other infections which are not usually seen among healthy population will also make their presence felt in the coming years

CHAPTER 8

MARRIAGE AND HAPPY HOME

Evolution, biology or God almighty whosoever is responsible for the creation, divided it into two sexes male and female. The intention was not just company but procreation that is increase in number. Marriage and rearing a family is not therefore only a custom but is a biological necessity – a physiological culmination and psychological satisfaction. Further it provides a sense of security and stability. Life is more satisfying and enjoyable than a casual affair. It provides an opportunity of understanding others and the art of adjustment, not only with the husband but with other members of the family and also relations and friends. Rearing a family and looking after children gives motherly satisfaction, which is a feminine necessity. The art of cooking and providing delicious and nutritious food in the house is much more enjoyable than going to a five star. I am reminded of the saying that the hand that rocks the cradle, rules the world. Therefore teaching children and building up their early years of life by proper guidance and looking after their health and education is a contribution to the nation as they are the future of the country. In one word it may be said that the rare art of 'Unity in Diversity' automatically comes home. All this goes to make a happy home, which is a rare commodity these days. One can go to the extent of saying that man and woman are incomplete without marriage.

The present day world has created a competitive desire in girls to mimic their brothers in hairstyle, dress, living and a desire to stand on their own feet. It is good

enough; but once you enter a career usually marriages are late and are not as successful as desired in the matter of child bearing and rearing. It has been observed that many a times it is difficult to find a suitable match at a late age leaving the woman single. This has its own (physiological and psychological) repercussion. As of today the young of our country are influenced by many factors and trying to metamorphose themselves like the western world where there is hardly any effort to enlighten them in this regard. We on our part, in India, with our ancient past and present culture would like to suggest (not advice, that marriage is as essential as birth. Those who will enter in a matrimonial alliance will realize that marriage is not just a custom, it is an institution full of realities and responsibilities of life. To the young girl I would say pick it up if you feel like, leave it if you dislike.

In either case, I would go with the customary saying:

Be prepared for remorse either way, if you are not compromising

Another debatable question haunts our mind. Should a woman be a housewife, a career woman or both? Either have their merits or demerits. The old tradition of the male looking after the finances to support the family adequately and the female devoting herself in looking after the house, her spouse and the children, the husband giving a helping hand during the hours of leisure is still customary. It restrains the woman from utilizing her knowledge and capabilities and may be responsible for providing tension, if said in a mild term. It may be a beginning of a conflict at a later stage. However on the other hand a career woman would be so engrossed in her own work requirements that she will not be

able to do full justice towards her household responsibilities, husband and children. Looking back to nature it is said that female members are tender and should not be subjected to hard work, physical or mental. Though this negates the cry of woman for equality, but at the same time it does not deprive them of their right to exhibit their capability and brilliance. Many a times due to economic constraints of the present day world, the wife may be forced to seek such a job, which may be carried out from the house or else part time work, which does not interfere with her household responsibilities. Thus it appears that a woman has a lot to sacrifice to be able to provide a strong united family where happiness is a byword or adopt a mild way recourse to avoid possible frustration. I leave it to the young ones and the future for an answer.

CHAPTER 9

POPULATION AND FAMILY PLANNING

At the beginning of the Christian era, nearly 2000 years ago, world population was estimated to be around 250 million.

It required all the human history upto the year 1800 for the world population to reach one billion. The second billion came in 130 years, the third billion in 30 years and fourth in 15 years, the fifth billion in 12 years and the sixth billion in 12 years. On October 12th, 1999 world population became 6 billion. It is expected to reach 8 billion by 2026.

About three fourth of the world's population is living in the developing countries. Three countries in the South East Asia Region i.e. India, Indonesia and Bangladesh are among the most populous countries of the world and account for 88.2% of the regions population. India's population is second to that of China. According to US projections, Indian population will reach 1.53 billion in the year 2050 and will be the highest population in the world. The population of India was 1 billion on 11th May 2000. India is supporting about 16% of the world's population with only 2.4% of the world's land area and is 7th in land area in the world.

With this magnitude of problems one should know fertility. It means the actual bearing of children. A woman's reproductive period is roughly from 15-45 years (a period of 30 years).

A woman married at 15 and living till 45 with her husband is exposed to the risk of pregnancy for 30 years, and

may give birth to 15 children, but this maximum is rarely achieved. In India an average woman gives birth to an average of 6.7 children if her married life is uninterrupted. Fertility depends upon several factors. The higher fertility in India attributes to universality of marriage, lower age at marriage, low level of literacy, poor level of living, limited usage of contraceptives and traditional ways of life.

The females who marry before the age of 18 give birth to a larger number of children than those who married after 21. If marriages were postponed from the age of 16 years to 20-21 years, the number of births would decrease by 20-30%. It is indicated that 10-25% of all births occur within 1-5 years of married life, 50-55% of all births within 5-15 years of married life and births after 25 years of married life are very few.

This suggests that family planning efforts should be concentrated in the first few years of married life. Hence family planning is an important factor in fertility reduction. However fertility is affected by a number of physical, biological, social and cultural factors such as economic status, caste & religion, nutrition, place of women in the society, widow remarriage, breast feeding, customs and beliefs, industrialization, better health conditions and housing.

FAMILY PLANNING:

Family Planning refers to practices that help individuals or couples to attain the following objectives:

1. To avoid unwanted births.
2. To bring about wanted children.

3. To regulate interval between pregnancies
4. To control the time at which births occur in relation to the ages of the parents
5. To determine the number of children in the family
Family planning is not synonymous with birth control, it is more than mere birth control.

A WHO Expert Committee has stated that family planning includes in its preview

1. Proper spacing and limitation of births
2. Advice on sterility
3. Education on parenthood
4. Sex education
5. Screening for pathological conditions related to the reproductive system
6. Genetic counseling
7. Pre-marital consultation and examination
8. Carrying out pregnancy tests
9. Marriage counseling
10. Preparation of couples for arrival of their first child
11. Providing services for unmarried mothers
12. Teaching home economics and nutrition
13. Providing adoption services

The above aspects are for the welfare of the couples and hence family planning programme is recognized by the name of Family Welfare Programme. The concept of welfare is very comprehensive and is basically related to quality of life. The objectives of family welfare programme in India are that people should adopt the "small family norm" to stabilize the country's population at the level of 1533 million by the year 2050 AD. The programme initially adopted the model of 3-

child family. In the 1970's, the slogan was the famous "Do ya teen has". In view of the seriousness of the situation, the 1980's campaign has advocated the 2-child norm. The current emphasis is on three themes

1. "sons or daughters – two will do"
2. "second child after 3 years"
3. Universal Immunisation

About 25% of eligible couples are found in the age group of 15-24 years, where eligible couple refers to a currently married couple wherein the wife is in the reproductive age, which is generally assumed to lie between the ages of 15 and 45 years. There will be 150 180 such couples per 1000 population in India. These couples are in need of family planning services.

FAMILY PLANNING METHODS

CONTRACEPTIVE METHODS

Contraceptive methods are preventive methods to help a woman avoid unwanted pregnancies. They include all temporary and permanent measures to prevent pregnancies resulting from coitus.

The contraceptive methods may be broadly grouped into two classes-

1. Spacing Methods
2. Terminal Methods

Spacing Methods

1. Barrier Methods:
 - a. Physical methods
 - b. Chemical methods
 - c. Combined methods
2. Intrauterine devices
3. Hormonal methods
4. Post-conceptual methods
5. Miscellaneous

Terminal Methods:

1. Male Sterilisation
2. Female Sterilisation

Spacing Methods.

1. Barrier Methods:

A variety of barrier methods, suitable for both men and women are available. The aim is to prevent live sperm from meeting the ovum.

Physical Methods.

Condoms:

It is the most widely used barrier device used by the male around the world. In India, it is better known by its trade name

Nirodh, a Sanskrit word, meaning prevention. Condom is receiving new attention today as an effective, simple spacing method of contraception, without side effects and it protects both men and women from sexually transmitted diseases (STD) and sexually transmitted infections (STI). The condom is fitted on the erect penis before intercourse. The air must be expelled from the test end to make space for the ejaculate. It must be held carefully when withdrawing it from the vagina to avoid spilling seminal fluid into the vagina after intercourse. A new condom should be used for each sexual act. Condom is effective if used correctly every time. It has certain disadvantages like reduction of sensation, interrupted sex and embarrassment.

Diaphragm: (Vaginal Method);

The diaphragm is a vaginal barrier. It is a shallow cup made of synthetic rubber. It ranges in diameter from 2.1 inches. It has a flexible rim made up of spring. A woman should use diaphragm of the proper size. The diaphragm is inserted before sexual intercourse and must remain in place for not less than 6 hours after the act. A small amount of the spermicidal jelly is smeared around the edge of the diaphragm and on both the sides and a teaspoonful of the same is placed inside the cup. Initially a Physician or other trained person is needed to demonstrate the technique of inserting the diaphragm into the vagina and

ensure a proper fit. It may also help in preventing STDs

Vaginal Sponge:

Another barrier device is the sponge soaked in vinegar or olive oil. It is being commercially marketed in the USA under the Trade name TODAY. It is a small foam sponge of 5 cm. by 2.5 cm. saturated with vinegar or olive oil

Chemical Methods:

They comprise of four categories

1. Foams – foam tablets
2. Creams, jellies and pastes
3. Suppositories – Inserted manually
4. Soluble films

They must be used almost immediately before intercourse and repeated before each sex act. They may cause mild burning or irritation.

2. Intra Uterine Devices (IUD):

The control of contraception by introducing a foreign body into the uterus is known as intrauterine device

Types of IUDs

There are two basic types of IUDs:

1. Non- medicated: or inert IUD known as first generation IUDs
2. Medicated or Bio Active: Second and third generation IUDs.

Both are usually made of Polyethylene or other polymers, in addition, the medicated IUDs release metal ions – copper or hormones – progestogens

The first generation IUDs appeared in different shapes and sizes- loops, spirals, coils, rings and bows. The Lippes loop is the best known and commonly used device. It is double S shaped device, made of plastic material. The loop has attached threads or 'tail' made of fine nylon, which projects into the vagina after insertion. The tail can be easily felt and is a reassurance to the user that the loop is in place. The tail also makes it easy to remove the loop when desired.

Second generation IUDs are copper T, copper T 200, 200c, 380Ag and Nova T.

Multiload Devices: ML-cu 250, ML-cu 375 copper devices have become very popular in India due to its low expulsion rate, lower incidences of side effects eg pain, bleeding and ease of insertion etc

A third generation IUDs based on release of a hormone are now in use. The most commonly used hormonal device is PROGESTASERT, which is a T shaped device filled with Progesterone, the natural

hormone. The hormone is released slowly in the uterus and has a direct local effect on the sperms. These IUDs have an effective life span of 5 years.

The Planned Parenthood Federation of America (PPFA) has described the ideal IUD candidate as a woman:

- Who has at least one child
- Has no history of pelvic disease
- Has normal menstrual cycle
- Is willing to check the IUD tail
- Has access to follow up

These IUDs are placed inside the womb by a specially trained family planning provider. These are very effective, reversible and for long durations. Menstrual periods may be heavier and longer, especially at first. Brief discomfort may occur after the insertion of the IUD. There is no effect on breast feeding. Pelvic infection is more likely if the user gets a STI. Serious complications are rare.

Hormonal Contraceptives

Hormonal contraceptives when properly used are the most effective spacing methods of contraception. Hormonal contraceptives currently in use and/or under study may be classified as follows:

- Oral Pills
- Depot (slow release) formulations
- Injectables
- Subcutaneous implants
- Vaginal rings

Oral Pills:

1. Combined Pills:

It is one of the major spacing methods of contraception. The pill is given orally for 21 consecutive days beginning on the 5th day of the menstrual cycle, followed by a break of 7 days during which period of menstruation occurs. The pill should be taken at a fixed time, preferably before going to bed at night. The first course should be started strictly on the 5th day of the menstrual period, as any deviation in this respect may not prevent pregnancy. If the user forgets to take the pill, she should take it as soon as she remembers and that she should take the next day's pill at the normal time. There are two brand names of these pills known as Mala-N and Mala-D.

2. Progestogen Pills:

This is commonly known as "mini pill" or "micro pill". It contains only progestogen, which is given in small doses throughout the cycle. It is a good choice for nursing mothers who want Pills. It can be started 6 weeks after child birth. It is also very effective during breast feeding and can be used as an emergency method for unprotected sex.

3. Post Coital Contraception (Pill)

This is recommended within 48 hours of an unprotected intercourse. For this two methods are available-

- IUD-the simplest technique is to insert an IUD, specially a copper device.
- Hormonal- give a double dose of the standard combined pills

Note- Post coital contraception is advocated as an emergency method only, eg. after unprotected sex, rape or contraceptive failure.

4. Once-a month Pill (Long acting Pill)

In this pill norgestrel, a long acting oestrogen is given in combination with a short acting progestogen.

5. Male Pill.

A male pill is made by a derivative of cotton-seed oil known as Gossypol. An ideal male contraceptive will decrease sperm count. At present it is not in wide use.

Depot Formulations

The depot formulations are highly effective, reversible and long acting preparations for women for spacing pregnancies. They are injectable contraceptives, subdermal implants and vaginal rings.

There are two types of injectable contraceptive progestogen only injectables and once a month combined injectables.

They are :-

1. DMPA
2. NET-EN

The initial injections of both DMPA and NET-EN should be given during the first 5 days of the menstrual period. This timing is very important to rule out the possibility of pregnancy. After the initial injection, one injection should be given every three months. The use of DMPA can be kept private as nobody will know whether the woman is using any contraception. This can be used by women of any age group whether or not they have any children. It is also safe during breast feeding, beginning at 6 weeks after childbirth. It also helps in preventing uterine tumors and pregnancy outside the womb.

NET-EN is given intramuscularly on every 60th day and has been less extensively used than DMPA.

Once a month combined injectables are given at monthly intervals, plus or minus three days. They are Cyclofem/Cycloprovera and Mer gyna.

Note: At times, injectables can lead to complications like spotty bleeding for long durations, causing anxiety and inconvenience regarding sexual contact.

Sub dermal Implant

The Population Council, New York, has developed a sub dermal implant, known as NORPLANT for long term contraception. It contains 6 silastic (silicon rubber) capsules.

More recent devices have two rods and are known as NORPLANT-(R) - 2. Both are implanted beneath the skin of the forearm or upper arm. They are effective for 5 years. They can be used by women of any age group whether they have any children or not. These capsules can be taken out any time. They are safe during breast feeding, beginning at 6 weeks after child birth and help in preventing anemia and pregnancy outside the womb.

POST CONCEPTIONAL METHODS (For Termination of Pregnancy)

Menstrual Regulation:

It consists of aspiration of the uterine contents 6 to 14 days of the missed period. Some regard menstrual regulation as very early abortion.

Abortion

It is defined as termination of pregnancy before the foetus becomes viable (28 weeks of gestation or more). This method is also used for birth control. Abortions are usually of two types - 1. Spontaneous: considered as Nature's method of birth control, 2. Induced: where deliberate abortion is performed. This may be legal or illegal.

MISCELLANEOUS CONTRACEPTIVES

Abstinence:

The only method of birth control where there is complete abstinence of sexual activity.

Coitus Interruptus:

The male withdraws before ejaculation and thereby tries to prevent deposition of semen into the vagina. The main drawback of this method is that the pre-coital secretion of the male may contain sperm and even a drop of semen is sufficient to cause pregnancy. Also slightest mistake in timing the withdrawal may lead to deposition of semen in the vagina.

Safe Period (Rhythm Method)

The shortest menstrual cycle in days minus 18 days gives the first day of the fertile period. The longest cycle minus 10 days gives the last day of the fertile period. For example, if a woman's menstrual cycle varies from 26 to 31 days, the fertile period during which she should not have intercourse would be from the 8th day to the 21st day of the menstrual cycle, counting day one as the first day of the menstrual cycle. During the fertile period the couple should use condoms or avoid vaginal sex. This method needs close cooperation between the two partners as avoiding sex for a long time can be difficult.

Natural Family Planning Method - The term is applied for three methods and the principle is the same as in the safe rhythm method.

Basal Body Temperature Method (BBT)

The rise in the basal body temperature at the time of ovulation is small - 0.3-0.5 degree of centigrade. When no ovulation occurs eg. as after menarche, during lactation, the body temperature does not rise. The temperature is measured

preferably before getting out of bed in the morning. The BBT method is reliable if intercourse is restricted to the post Ovulatory period ; commencing 3 days after the Ovulatory temperature rise and continuing upto the beginning of menstruation.

Cervical Mucus Method

At the time of ovulation, cervical mucus becomes watery clear resembling raw egg milk, smooth, slippery and profuse. It is difficult for a woman to assess the quantity and characteristics of mucus and to distinguish between different types of mucus.

Symptothermic Method.

This method combines the BBT, cervical mucus and rhythm techniques for identifying the fertile period. If the woman cannot interpret one sign, she can "double check" her interpretation with another.

Lactational Amenorrhoea Method (LAM); Breast Feeding

It is a traditional belief that breast feeding provides some degree of protection against pregnancy. A breast feeding woman uses LAM when a), the baby gets none or very little food and is sustained only on breast feeding, b), her menstrual periods have not returned, c), her baby is 6 months old.

This method is only effective upto 6 months after child birth. The woman should plan another method when she no longer uses LAM

Birth Control Vaccines

The most advanced research involves immunization with a HCG vaccine to develop antibodies between 4-6 weeks. These decline to zero levels after a period of 6-11 months. The immunity can be boosted by a second injection.

Terminal Methods: Sterilisation

Sterilisation is one time method and provide most effective protection against pregnancy and is most cost effective. Voluntary sterilization is a well established procedure for couples desiring no more children. Both male and female can undergo sterilization

Male sterilization is called Vasectomy and Female sterilization is called Tubal Ligation or Tubectomy.

Finally, it should be understood that all methods have a failure rate, however small.

Follow the Slogan:

DELAY THE FIRST, POSTPONE THE SECOND AND PREVENT THE THIRD.

CHAPTER 10 **EDUCATION & CAREER**

Decision Making In Adolescent Girls

INTRODUCTION

More than four decades back even the idea of making a decision about the future of the female gender in terms of career was unthinkable. The life style, the path to tread was firmly set by the family traditions and the society. Education was minimum and secondary. Marriage starting from the age of 10 in tribal and rural areas and 14 onwards in the urban was the order of the day. Raising a family doing house hold chores/work cooking meals looking after the children and other members was the usual scenario/sequence of events. From the above era with an initial period of slow pace of growth the country marched forward at a higher speed. Availability of better and more educational facilities, influence of media, easy approach to literature, international mixing resulted in growth in all fields; raising the status of the country from an under-developed to a developing one. Time is not far when we may be competing with the highly developed ones. The associated growth in all fields specially industrial and technical throw open large vistas of job opportunities of all grades and shades. More hands are needed to cope up with the above.

However in the last 15 years there has been a sea of change in the attitude, desire and determination of girls. The instinct of competing with boys, quest for knowledge, desire

to seek job positions in all fields including hazardous and liberal attitude of parents has broken all the hurdles; opening the path way of education of girls in a big way, almost equal to boys. It is heartening to note that of late the girls are proving equal or even excelling the boys in some fields.

With the above the natural inference drawn is that much more consideration and thought should be given to the educational matters of the girls. The responsibility of the above lies on the parents, the young one and the teachers alike. This triangle should be conscious of this.

When to decide

Level of education	High School & Interned etc
Age Group	14 to 16 years latest by 16 years

Factors Influencing Decisions

1. Desire
2. Attitude
3. Capacity to work
4. Capability
5. Availability of finance
6. Family work tradition.
7. Marriage and raising a family which is the highest Biological Function, bestowed by nature to female sex
8. The wish of the girl concerned should be given due consideration.

The final decision should be arrived after a symbiotic consideration of the above factors. Every institution should have a teacher who should be assigned the job of child guidance for future education. If the college has none than a

number of colleges should pool together and provide this facility. However if this is also not possible, it is advisable that help should be taken from special agencies providing guidance in this field.

WORD OF CAUTION

Media & Magazines though highly informative, at times may not give correct guidance. The extent to which the prevalent mood, thinking and the way of life of the western world has gradually infiltrated in India's youth is exhibited by the following opinion poll reported in the Week magazine Dec.2000

VIEWS

Neera from Delhi – "I have no plans for marriage in the near future. I want to stand on my feet."

Marriage "lost its essence long ago for journalism student Jayanti of Bangalore. I do not plan to get married and I think people who are not cut out for marriage should stay far from it".

Sangeeta Sinha a television announcer in Patna is married but prefers to stay away from the joint family, "Personal life gets effected in a joint family" She explains "you can not do any creative work."

However Uma Krishna, psychologist from Chennai, is more rational in thinking. She says we did not have so much exposure and were a trifle naïve for parents to cope with the changing views of the youngster at home, She adds "But they have coped admirably." This is sufficient to prove

that Western influences has already taken a strong hold on the India's young

Working girls usually have late marriages which has its own drawbacks. The off springs do not get the desired amount of time and affection normally needed. Some prefer to remain single. In both the cases there may be a palpable change in psychology and personality which is a compromise with the essentials of feminism. All that glitters is not gold. Please beware of the consequences before you take your first step

The extent to which the western culture is influencing the youth of our country is obvious from the above. Is it desirable? If not- something has to be done to slow the pace and or alter the path

“साया भी दूगां तुम्हे और मैं फल भी दूगां।

मैं हरा वृक्ष हूँ कटन से बचा लो मृदुको॥”

The natural conclusion drawn from what has been cited above is that decision making in girls education is much more difficult than their male counter part.

PARENTS ROLE

Understanding the problems of youngsters should form the basis of parental relationship. Children should be made conscious of their shortcomings and mistakes.

Admonition should be avoided, instead polite advices tactics should be adopted while dealing with them. Hard and rough behavior of parents creates a fear complex in the child who starts speaking lies. Love and careful handling gives them courage and creates a temperament of hope and confidence which leads them towards success. The art of seeking ways and means and obtaining cooperation is an additional asset to be cultivated in the child at this stage.

REMEMBER Cool kids work hard and play harder

Options:

Let us examine the options available : Arts, Science, Engineering, Medical , Commerce , Computer, Teaching , Defense services, Music, Mass Communication , Actor , Artist , Scientist , Social Worker , Politician , Sportsman , Industrialist Marriage and lead a life of a housewife or be a free lancer. An opinion pole conducted in December 2000 by the T.N. Sofres Mode an International Marketing Agency in the age group 14 to 25 males and females spread across seven major cities of the country.

ROLE MODEL Kind of person the young would like to be

Scientist	6
Actor	5
Business/Industrialist	26
Sportsman	12
Social worker	7
Doctor	8
Administrator	9
Others	27

The subjects to be taken in the high school or Intermediate should be carefully selected so that there is no difficulty to the girl in question later for entering in the opted carrier. Let us call this as the desired goal

HOW TO ACHIVE THE ABOVE

1 REAL DESIRE

2 INSPIRATION FROM OTHERS

3.STRONG DETERMINATION

4 DEDICATION

5 DISCIPLINE & RESTRAIN

REAL DESIRE

The birth of desire is usually after reading, thinking by suggestion, family tradition or may just be an Intuition . Intense desire is the starting point in your thinking which gradually leads you in a particular direction , ultimately transforming it into your AIM.

2 INSPIRATION FROM OTHERS

Suresh Kumar who topped in IAS, attributes his success to self confidence, strong determination and planned studies.

Rahul Kumar started as a clerk after Inter, did his B A. and finally succeeded in IAS. He says real desire, planned studies and hard work are the key to success

STRONG DETERMINATION

Determination should be firm like a Rock. It is like the arrow of your bow which takes you towards your target. Strong will lead you to firmness. This has to be cultivated. Nothing is impossible in this world . It is usually said "that it is very difficult to change habits." Believe me even habits can be changed by necessity , strong will & right thinking.

Problems and hindrances always come in your way. They try to dampen your spirit . You have to face them with courage . Your motto should be to continue work harder and still more harder. Success shall be at your door step.

DEDICATION

Dedication is honest surrender to your objective. It is the Heart and Head of your AIM . With dedication all thoughts and actions line up in the correct direction . It is like putting the right key in the lock of your objective . With absolute dedication as visualized in the couplet given below you can be assured of attaining success.

“तुलसी जाके मुख से थोकेऊ निकसे राम।
ताके पग की पगधरि मेरे तन को चाम॥”

DISCIPLINE & RESTRAIN

Discipline is extremely essential in life . It not only leads you towards your goal but also helps in maintaining mental peace & equilibrium. Discipline has to be cultivated by self. If it is thrust upon some one, it makes him like a watch, or a machine, it not only makes him rigid but produces tension. First you have to start work, Inspiration comes itself. Those who wait for an opportunity waste tons of time uselessly. To be honest if you have a firm desire any or every time is good enough to begin .To attain a high place in life, peace and pleasure one usually has to cross all type of hurdles and under go penance. Keep your moral high, concentrate towards your AIM like Arjun's eye did in shooting the bird in Mana Bharta. Last but not the least remember that there is no substitute to hard work.

The guide line narrated above shall only help you in marching towards your Goal .Additions and alterations have to be made as and when required by new situations and circumstances.

I do hope that this chapter would serve the purpose for which it has been written.

CHAPTER 11

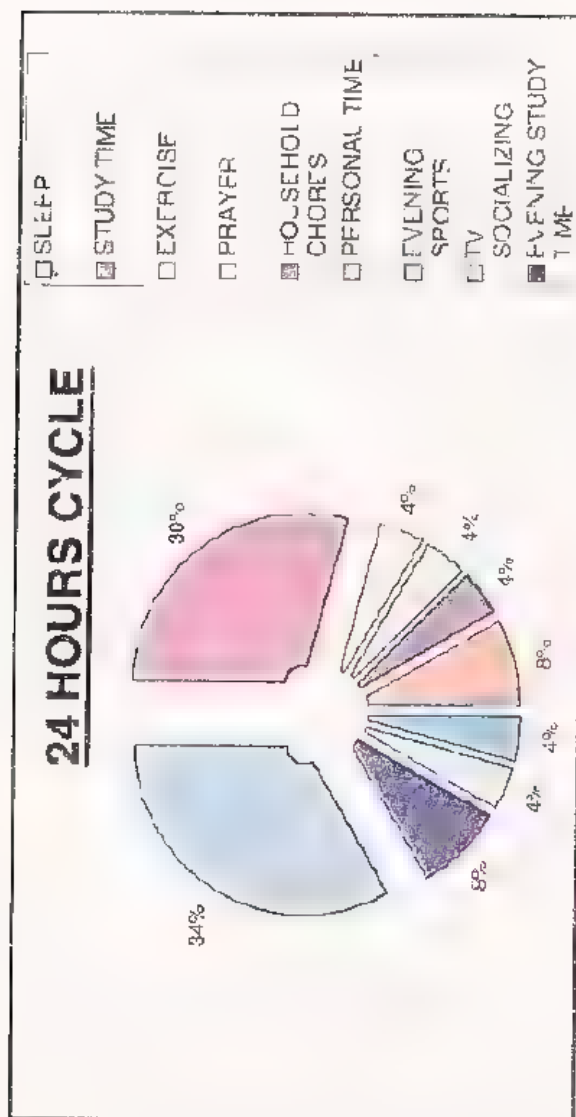
THE 24 HOUR CYCLE

A celebrated journalist who strode around the media scene of the twentieth century said that—“ I believe with a passionate, unshakeable conviction that all times and in all circumstances, life is a blessed gift; that the spirit that animates it, is one of love not hate or indifference, of light not darkness, of creativity not destruction, of order and not chaos”

In short our life has to be full of positive thinking with no space allotted to negative thinking or negative deeds. Life can be balanced with past, present and future .Past may have been nostalgic, but nothing can amend the past, so it is best forgotten, with only the faults which can be rectified in the present and future and can be remembered. Future is something abstract, unknown, depending on Karma and destiny, so again a helpless situation. So it is best to live in the present. Now to live in the present we need to plan our life- our routine – our days – our 24 hours of a day. Thus –
“ THE USE OF 24 HOURS OF OUR DAY”

MORNING:

After a good night's sleep we begin our day with a fresh morning .Start everyday with the thought that everyday is a new day and it is a good day. A good day to make amends and a positive beginning. Activities differ from person to person depending on his intentions and requirements. Sunrise should bring in enough sunshine and happiness each day, so that the past is forgotten and a new beginning is achieved.



PHYSICAL EXERCISE / PRAYERS:

Our day curriculum must ensure keeping the mind and the body fit for the 24 hours cycle ahead. The body can be kept fit by proper physique and physical hygiene. The mind can be healthy by positive thinking, proper thoughts and meditation. Now, to be fit, exercise has to be an important part of our routine. The form can vary from an early morning walk (in a pollution free atmosphere) to an hour of yoga or an active sport of your choice. Mental alertness by prayers and meditation. Prayers give us the strength to achieve and perform with confidence.

STUDIES:

Access to success is through hard work and it cannot be overlooked ! Short cuts can never help us and success never accepts any short cuts. Schools and colleges have to be attended – we have to be regular not only for studying but for overall discipline in life. In being a regular student we learn to live together, share everything, have healthy discussions without fighting over arguments. We should learn to forgive and forget and this enthuses us with magnanimity. We should learn to respect our teachers and seniors.

HOUSE HOLD CHORES / HELPING PARENTS :

The concept of nuclear families is fast gaining ground because of the influence of western countries on our youth. But when living together, the feeling of sharing of work and feelings is an important social aspect of our lives. It has been felt that those who share work with the members of the family and friends achieve a cool state of mind. We should

always be thankful to God for making us privileged class with elders and youngsters around us and we should never forget that there are many underprivileged who need our help and affection.

Thus caring for the needy inspires us with a positive attitude and a feeling of self confidence and satisfaction within our own self. We just can never forget that we owe the society some responsibilities. When we help our parents or elders or even youngsters we feel good and responsible. Our parents elders and teachers set high goals for us and provide basic background and facilities. They create lot of confidence in us by the love they shower on us.

GAMES

Time has to be spared for games and sports of your choice for recreation and for relieving the mind of all the problems— a deviation and relaxation. Outdoor field sports are very entertaining and these games inculcate in us the responsibility of reciprocal social responsiveness and a sporting spirit.

SOCIALISING / T V WATCHING / SPARE MOMENTS.

T V watching has become an indispensable part of our routine. We should try to minimize it as soap operas are so far away from facts that they inculcate the feeling of achievement without proper input. Our values of life start changing. Such operas result in negative facets of life. Scientific and educational T V programmes are enlightening—they harmonise our feelings.

Talking to friends and healthy discussions with them are really good. Interaction and exchange of views opens up our minds and vitalizes our entire system. Reading good books is the best way to utilize our spare moments.

FOOD

In our daily lives we need good and nutritive food as without strength, performing for the day is impossible. Food gives the body support and strength. Nutritious and a balanced diet helps us to develop immunization towards illness and our body develops total harmony with the environment and our requirements. Our food should comprise of plenty of fruits, salads, vegetables (raw and cooked), sprouts, milk and milk products, grains and lentils. Fast foods popular with the youngsters are tasty and quick but easy to cook, but they are mostly 'junk food' and harm our system.

SLEEP :

Long goes the saying "Early to bed and early to rise makes a man healthy, wealthy and wise". Though the traditions of early are being overlooked and it is no "in" to rise early. But a start with an early morning gives a fresher beginning and a longer day. Time never betrays us, it is only we who while away our time, because we have not planned our routine or our activities for the day. Time never runs short for busy persons, but runs out for lazier persons.

Henry Ford always entrusted all his important jobs to the busiest persons in his office. Only thinking and planning

may not help much – as making proper decisions and performing is a must. Life should be measured not by its span but by its achievements.

Each one of us has different looks, different personality and at the same time different likes and dislikes and different talents. Can all of us excel in the same field? Say, can all of us play cricket like Sachin, or sing like Lata Mangeshkar! But all of us have hidden talents and what we need to do is constantly keep searching within ourselves for the hidden talent in us and pursue that some field. Do not get depressed if you do not succeed in a particular field – but be hopeful that there is surely a field where you are bound to excel.

Experiences of rejection, disappointment, doubt and resentment may crowd your mind – but do not become a slave of such feelings. Enjoy your day, laugh out your sorrows – life is too short to crib or to sulk. Happiness has to be shared with sorrows – but let us lighten our darkness with the feeling that nothing lasts forever and things have to change with times. Enjoy your life because God has bestowed upon you a life full of promises, happiness and achievements – “Do not fail HIM”!

CHAPTER 12

THINGS TO KNOW

There are many problems encountered in every household. Many times medical aid is not immediately available or may take time. Management of such emergencies are grouped as First Aid.

First Aid is the immediate and temporary care given to the victim of an accident or sudden illness. The purpose of first aid is to preserve life, assist in recovery and prevent aggravation of the condition, until the patient can receive proper medical attention. It should be understood that First Aider cannot take the place of a Doctor.

The person giving First Aid has certain responsibilities:

1. He /she should respond quickly without creating fuss or panic.
2. Artificial respiration to be given if breathing has stopped.
3. Stop bleeding.
4. Guard against shock by moving the person as little as possible and handling him gently.
5. Call for the ambulance, so that proper medical attention may be given at the earliest.

VOMITING:

It is an unpleasant experience caused by a number of conditions. Vomiting means forceful ejection of the stomach contents through the mouth. This “throwing up” is due to

reflex action caused by stimulation of the vomiting center in the brainstem.

There are many causes of vomiting. Generally contaminated food and gastroenteritis and excessive drinking are the commonest causes. Many medical diseases can lead to vomiting. Vomiting is very common during pregnancy.

Aid:

1. Avoid solid foods
2. Take plenty of oral fluids like water, milk and squashes.
3. Ice can be sucked.
4. In case the vomiting persists, consult a doctor.

BURNS:

Burns are commonly caused by fire, hot metals, electric wires, acids and other chemicals, hot water and liquids and steam. Sun burn is also common.

Treatment: Any flames should be put out by using a blanket and burnt part immersed in water. This is then covered by a clean cloth and assistance is called for. Blisters which may form are not removed or broken and no creams or ointment should be used until medically advised. Burns lead to dehydration. Thus plenty of fluids are required. It is best to give water at frequent intervals. This may be avoided if vomiting persists.

ELECTRIC SHOCK :

Electric shock is a terrible incident. Certain immediate measures should be taken.

1. Turn off the electricity before approaching the victim
2. Check if the person is breathing and use artificial respiration if any.
3. Examine for any fractures, bleeding or burns.
4. Burns can be immersed in water.
5. Call for medical help.
6. If heart beat is not felt, thump the chest and give cardiac massage. This is given by placing the left hand on the sternum and pressing this by the right hand. This should be done 4 times and then one attempt at artificial respiration is made.

CUTS AND WOUNDS :

Small injuries lead to break in the skin with bleeding. The bleeding may be stopped by applying pressure on the cut. The wound may be cleaned with soap and water. An antiseptic cream should be applied and the wound covered by a sterile bandage. Blood from the nose can be arrested by tilting the head backwards and applying pressure on the nostrils. Apply cold compress.

TOOTHACHE :

It is normally increased by taking hot, cold and sweet things. A pain killer may be taken and a dentist consulted for the cause of pain.

DROWNING :

Drowning is the fourth leading cause of accidental death and is fairly common.

Drowning could be of three subtypes:

1. Drowning in fresh water: large quantities of water enter the lungs and because of hypotonicity of fresh water, rapid absorption into the circulating blood stream takes place.
2. Drowning in sea water : sea water is strongly hypertonic and thus the salt concentration in the blood stream increases. This leads to diffusion of water into the lungs and respiration becomes very difficult.
3. Death associated with diving : in these cases death is due to underwater asphyxia following hyperventilation. Diminished blood to the brain causes loss of consciousness which leads to inhalation of water.

Resuscitation :

The main objective is to institute such measures before circulatory failure sets in.

1. Clear the airway by postural drainage or suction.
2. Extend the neck.
3. Give external respiration and closed chest cardiac massage if there are no heart sounds and absent pulse.

Emergency treatment is essential and medical aid should be called for at the earliest.

CHAPTER 13

SUMMARY

- Necessity to know about herself in the period of growth from puberty to adolescent has been highlighted.
- The need of a change in the concept of women in the house has been evaluated.
- The world of today needs more hands that are properly educated and technically qualified. To achieve this the need to reorient the educational pattern have been emphasized. Of course the desire of the girl has to been given full consideration.
- The role of parents in achieving the above has been outlined and detailed.
- A dietetic regime has been outlined for proper physical and mental development .
- No doubt, media magazines and literature are highly informative; at times they play a negative influence, which has been summarized and commented upon.
- The importance of marriage and rearing a family has been outlined.
- Suggestion has been made how to utilize the 24 hours in a constructive manner.
- Careful planning, hard work and dedication are essential for success in life.

CHAPTER 14

THE FUTURE

The status of all beings has been reduced to equality by the unfolding of the genetic code by the scientists. It will not be too far when the protein code will be similarly deciphered. To the female gender God has bestowed the highest biological function that is reprocreation. Along with it a number of assets and instincts have been silently conferred by the nature on her which may be impossible to decode.

Imagine, how nice it is to see a pigeon feed her young ones in the nest and the ferocious lioness licking and caring her offspring in her lap. Both speak highly of their maternal instinct. All know the extent to which a female is prepared to undergo penance and sacrifice to bear a child without a shriek. It speaks of high level of determination, devotion and dedication.

The historical fact of the bravery of Maharani Laxmibhai is another undeniable proof of this aspect of the tender sex. A peep in mythology brings forth innumerable examples of indefinable amount of sacrifices at the cost of pain and hardship by female. The silence with which she bears the hurt without looking back, itself speaks of the inborn virtue of willful giving. These and other hidden qualities entitle her to be called Durga, the goddess of power.

The above is just a pointer. Obviously there are many hidden qualities and instincts, which are to be unfolded and utilized carefully. They are likely to provide a bright and creative future, provided proper pressure points are pressed.

We need a lot of research to find out these. The future is waiting for their unknown contribution.

The above has been written to remind an adolescent girl that the future is waiting for her to utilize the countless opportunities and vistas where she could develop, exploit and exhibit her colossal hidden energies for the good of humanity.